A High Speed, Low-Cost Process for the Demodulation and Detection in EDGE Wireless Cellular Systems

ABSTRACT OF DISCLOSURE

5   A process for signal detection in EDGE cellular systems is presented with the step of wireless channel estimation, a time-reversed signal processor, a soft-output Viterbi signal detector consisting of forward and reverse block processing, a MAP decoder that exchange soft information with the equalizer. Claim 1. A signal detection mechanism to demodulate received data frame that includes an accurate estimator to

10   obtain channel responses, a forward filter and a FIR decision feedback filter to be used in soft-output equalizer, a time-reversal device storing received data in a time-reversed order for reverse block processing, an interference removal apparatus in both forward and reverse processing blocks,

and a soft-input soft-output reduced state equalizer that utilizes the forward processing

15   and reversed time processing blocks to generate iterative soft-output signals to the forward error correction decoder within the receiver system.